

THURSDAY, MAY 25, 1899.

RECENT WORKS ON MEDICAL SCIENCE.

1. *The Administrative Control of Tuberculosis*. Being the Harben Lectures delivered in 1898, before the Royal Institute of Public Health, by Sir Richard Thorne Thorne, K.C.B., F.R.S. Pp. 73. (London: Baillière, Tindall, and Cox, 1899.)
2. *Die Bedeutung der Reize für Pathologie und Therapie im Lichte der Neuronlehre*. Von Dr. A. Goldscheider. Pp. 88. (Leipzig: Barth, 1898.)
3. *Twenty-seventh Annual Report of the Local Government Board, 1897-98*. Supplement containing the Report of the Medical Officer for 1897-98. Pp. 331. (London: Her Majesty's Stationery Office, 1898.)
4. *The Natural History of Digestion*. By A. Lockhart Gillespie, M.D., F.R.C.P., F.R.S. (Ed.) Pp. 427. "Contemporary Science Series." (London: Walter Scott, Ltd., 1898.)
5. *Diet and Food considered in Relation to Strength and Power of Endurance, Training and Athletics*. By Alexander Haig, M.A. and M.D. (Oxon.), F.R.C.P. Five Illustrations. Pp. 86. (London: J. and A. Churchill, 1898.)
6. *On Centenarians and the Duration of the Human Race*. By T. E. Young, B.A., F.R.A.S. Pp. 145. (London: Charles and Edwin Layton, 1899.)

1. THE subject-matter of the Harben Lectures, of which the book before us consists, is at the present time of special interest, not only to the medical profession, but to the general public. The country is now thoroughly roused to the importance of the control of tuberculosis, and although the measures considered in Sir R. Thorne Thorne's book are intended primarily for sanitary officials, they should prove of extreme interest and importance to both the general practitioner and the agriculturist.

In the first lecture, the author emphasises the fact that while of recent years the death-rate from pulmonary consumption has very greatly diminished, no corresponding diminution has been observed in the number of deaths due to tubercular lesions of the alimentary tract. The difference ætiologically between these two classes of cases consists mainly in the air being the source of infection in the former, and the food in the latter. The enormous improvement in the arrangement of dwelling-houses and streets with regard to ventilation facilities and drainage suffices to explain the diminution in the phthisis death-rate. According to the author, the absence of improvement with regard to meat and milk supply goes far to account for the death-rate remaining stationary in tubercular disease of the digestive tract. The foods which, for the most part, are the sources of tubercular infection are meat and milk. So far as concerns meat, which is far the less important of the two, the author advises the establishment and exclusive use of public slaughter-houses under administrative control. In these slaughter-houses experts could decide to what extent the flesh of tuberculous beasts was unfit

for human food. It is interesting in this connection to note that beasts bred in confinement—*i.e.* with a diminished fresh air supply—are most frequently the subjects of tuberculosis, the disease in wild animals being very rare.

The second lecture is practically devoted to the consideration of milk as a source of tubercular infection. The vast majority of cases of *tabes mesenterica* (tubercular disease of the intestines) occur at precisely that period of life which corresponds to the maximum milk consumption, *viz.* early childhood. The deaths under one year of age, returned as due to this cause, amounting to no less than 1·046 per million births. This, according to the author, is in great part due to the prevalence of tuberculosis among milch cows. In England and Wales there are 2,100,000 milch cows, and of these 525,000 are tuberculous. The rejection of all tuberculous cows is impracticable. The administrative control of cow-houses, especially with regard to the amount of cubic space per cow, would, according to the author, greatly lessen this appalling amount of disease. So long as the cow-house remains filthy, the burnished cleanliness of the dairy is unavailing.

The third lecture discusses the *pros* and *cons* of the compulsory notification of phthisis, and is of less interest to the readers of NATURE, although of profound importance to the expert.

The space at our command has only enabled us to touch upon a few of the many interesting points in these lectures. A thorough perusal of them will repay both the general and the special reader.

2. This book is an interesting monograph devoted to the study of the importance of stimuli of various kinds in different disorders of the nervous system. The author's contention is that the effect of the various stimuli, such, for instance, as massage, friction, electric stimulation, &c., which are now used very generally therapeutically, can be explained physiologically, and therefore that these methods must be regarded as part of the legitimate *répertoire* of the physician.

The first chapter is devoted to the physiology of the subject. The author adopts the neuron theory of the nervous system, and goes a step further in that, according to him, each anatomical unit is also a unit physiologically. The unit of nerve activity he terms the neuron wave (*Neuronschwelle*). Chapter ii. treats of the pathological changes in the neuron waves. A relatively small part of the book is devoted to the explanation of how external stimuli, applied with a therapeutical object, act in certain cases of hyperæsthesia and paralysis. The author thinks that the effect of external stimuli in these conditions is not entirely explained by merely assuming that they form the afferent impulse of a vascular reflex action, but that they also act by disturbing in one or other direction the equilibrium of the excitations (*Erregungen*) at the time existing in the nervous system. In conclusion, the author considers that the varied phenomena occurring as the result of so-called "suggestion" are all explicable upon this "physiological neuron" hypothesis, and hence are robbed of any mysticism which, from a legitimate medical practice standpoint, seriously restricted the use of this method.

The monograph is to the general physiological reader

somewhat abstruse, and the style involved, but should be of considerable interest and importance to the neurologist.

3. This report contains a mass of interesting fact; the parts of it, however, most likely to be appreciated by the readers of NATURE are the reports contained in Appendices A and B. These are generalised in the report proper as Auxiliary Scientific Investigations. One of the most interesting of these treats of the relation of enteric fever to oysters. The Medical Department was successful in tracking at least twenty-six cases of enteric fever to infection by Brightlingsea oysters. It was also ascertained that, during 1897, infectious matters derived from persons suffering from enteric fever must needs have been discharged in the immediate neighbourhood of certain oyster beds situated in Brightlingsea Creek. The Urban District Council of Brightlingsea are now taking measures which will obviate this pollution of their oyster-beds.

Dr. Klein reports upon bacillus enteritidis sporogenes. This anaerobic bacillus occurs under certain conditions in milk, and has a casual relation to infantile diarrhoea.

Dr. Sidney Martin furnishes a report on the viability of the typhoid bacillus in virgin and organically polluted soil. This research, so far as concerns the ability of the typhoid bacillus to thrive in soils containing other bacteria, is at present incomplete.

A short report deals with the relative values of the chemical and bacterioscopic methods of water analysis; from this it appears that, in the case of waters very slightly contaminated with sewerage, chemical methods gave negative results when bacilli could be detected in probably harmful quantity.

Some further interesting observations upon the streptococcus scarlatinae have been made. It appears that this organism, which is the cause of scarlatina, may haunt the nasal secretion of patients long after desquamation has ceased and recovery has taken place.

4. The "Contemporary Science Series," so well known to the general scientific reader, has, in including this work in its publications, acted very wisely. It is quite impossible in a short notice, like the present, to give any adequate account of the contents of Dr. Gillespie's book. The subject is treated from a thoroughly scientific standpoint, and yet at the same time is made essentially readable even to the general reader. The only two faults to be found with the book are that, firstly, it is too condensed, and secondly, no doubt for the sake of saving space, the complete references to the literature of the subject are not always quoted. Names are from time to time mentioned without the full reference. This fault is somewhat accentuated by the absence of a bibliography, the mere list of authors being actually of little service. The book is thoroughly up to date, and although there is no attempt at making it in any sense a practical handbook, sufficient of the practical is introduced to give point and interest to the descriptive.

In the chapters upon such subjects as foods, alcohols, &c., the author shows a wise discrimination, and does not allow himself to be the mouthpiece of any of the many varieties of faddism which exist. A biological survey of digestion such as the present, containing a description of digestion in plants, as well as in animals, is certain to be of value to the biologist. The chapter on ferments

contains an account of the most recent researches in this field. Numerous diagrams and tables, the latter containing a mass of information, add to the value of the work.

5. Dr. Haig's book may be regarded as an appendix to the author's earlier work on "Uric Acid." Many of the views expressed therein, and reiterated here, are not generally accepted either by physiological chemists on the one hand, or by physicians on the other. It is well to make this fact quite clear, as the general reader, into whose hands this book will probably fall, may be apt to think that what the author states as "shown" or "proved" in "Uric Acid" is universally accepted fact. The obstruction of the peripheral capillary circulation by uric acid may be quoted as an instance of this; it is well to emphasise the fact that this is pure imagination. Further, the poisonous properties ascribed to uric acid and the xanthins are by no means established. To the readers of "Uric Acid," such expressions as "a rush of a lot of uric acid into the blood" will be familiar. "A lot" of uric acid has never been demonstrated in the blood under any circumstances, and such an expression must be regarded as highly unscientific and misleading. Upon premises akin to the above and a few experiments, the author recommends what may be termed ultra-vegetarianism; that is, a vegetarian diet from which eggs are excluded, also tea, coffee, alcohol and tobacco. The book is written in a popular style, and it is to be feared that the plausibility of the manner and the attractiveness of the title, by increasing the circulation of the book amongst the public, will tend rather to the perpetuation of faddism than to the advancement of knowledge.

6. This work is a critical and an historical inquiry into a subject which *ipso facto* is of universal interest. The author lays great stress upon the stringent nature of the proof which must be exacted in the case of any claim to having acquired very advanced age. The methods adopted by the Institute of Actuaries may be regarded in this respect as a standard. Some score of examples of centenarians, authenticated beyond all doubt, is given; but the author rejects such instances as William Parr, to whom tradition ascribes the age of 157 years, as unproved. An interesting chapter is devoted to a consideration of the enormous age of the Biblical patriarchs, various hypotheses being advanced in explanation of this. The book concludes with some interesting speculations concerning a possible law of longevity. The author has taken considerable pains to sift well the literature of his subject, and if the whole is not as concise as perhaps it might be, the book contains much that is interesting and instructive.

F. W. T.

ROUTH'S DYNAMICS OF A PARTICLE.

A Treatise on the Dynamics of a Particle. By Edward John Routh, Sc.D., LL.D., M.A., F.R.S., &c. Pp. xi + 417. (Cambridge University Press, 1898.)

THIS treatise is intended for the student. It has all the merits as well as the limitations which characterise Dr. Routh's other well-known text-books; and, on the principle of reserving the good wine to the last, we will first consider its limitations, more particularly as an introduction to dynamical science.